

Application Serial No: 10/734,711
Responsive to the Office Action mailed on: June 13, 2007

REMARKS

This is in response to the Office Action mailed on June 13, 2007. Claims 11-15 are pending.

§103 Rejections:

Claims 11, 12 and 15 are rejected as being unpatentable over deNeufville (US Patent No. 4,621,032). This rejection is traversed.

Claim 11 is directed to a method of manufacturing an information recording medium including a substrate and a recording layer disposed above the substrate that requires, inter alia, that the recording layer is formed of a material expressed by a composition formula of $[(\text{Ge}, \text{Sn})_A\text{Sb}_2\text{Te}_{3+A}]_{100-B}\text{M}_B$, where $0 < A \leq 10$, $0 < B \leq 20$, such that A and B each represent an atomic percent and M is at least one of Ag, Al, Cr, Mn or N. When $0 < A \leq 10$, this composition formula obtains the unexpected advantage of preventing deterioration of the repeated-rewriting performance of the information recording medium. Also, when $0 < B \leq 20$, this composition formula prevents the deterioration in crystallization sensitivity from worsening with time (see page 3, lines 8-11).

deNeufville does not teach or suggest these features. deNeufville is directed to a method of forming a data storage medium that includes a phase change material that is a chalcogenide composition that contains tellurium and one or more cross linking agent(s) including Al, In, Ga, Si, Ge, Sn, N, P, As, Sb, Bi, S and Se (see column 4, lines 38-61). However, nowhere does deNeufville teach or suggest the composition formula of $[(\text{Ge}, \text{Sn})_A\text{Sb}_2\text{Te}_{3+A}]_{100-B}\text{M}_B$, where $0 < A \leq 10$, $0 < B \leq 20$, such that A and B each represent an atomic percent and M is at least one of Ag, Al, Cr, Mn or N, as required by claim 11. deNeufville merely lists off possible components of its phase change material without pointing in any way toward the composition formula required by claim 1. Moreover, deNeufville does not contemplate the unexpected advantages of preventing the deterioration of the repeated-rewriting performance of the information recording medium or preventing the deterioration in crystallization sensitivity from worsening with time, achieved by requiring $0 < A \leq 10$ and $0 < B \leq 20$, respectively. Thus, there is also no motivation to modify deNeufville to meet the features of claim 11. For at least these

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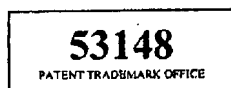
reasons claim 11 is not suggested by deNeufville. Claims 12 and 15 depend from claim 11 and should be allowed for at least the same reasons.

Claim 13 is rejected as being unpatentable over deNeufville in view of Kikukawa (US Patent No. 6,329,036). This rejection is traversed. Claim 13 depends from claim 11 and should be allowed for at least the same reasons described above. Applicants do not concede the correctness of this rejection.

Claim 14 is rejected as being unpatentable over deNeufville in view of Kikukawa and further in view of Ohno (US Patent No. 6,033,535). This rejection is traversed. Claim 14 depends from claim 11 and should be allowed for at least the same reasons described above. Applicants do not concede the correctness of this rejection.

Conclusion:

Applicants respectfully assert that claims 11-15 are now in condition for allowance. If a telephone conference would be helpful in resolving any issues concerning this communication, please contact Applicants' primary attorney-of record, Douglas P. Mueller (Reg. No. 30,300), at (612) 455-3804.



Dated: September 12, 2007

Respectfully submitted,

HAMRE, SCHUMANN, MUELLER &
LARSON, P.C.
P.O. Box 2902-0902
Minneapolis, MN 55402-0902
(612) 455-3800

By: 

Douglas P. Mueller
Reg. No. 30,300
DPM/ahk